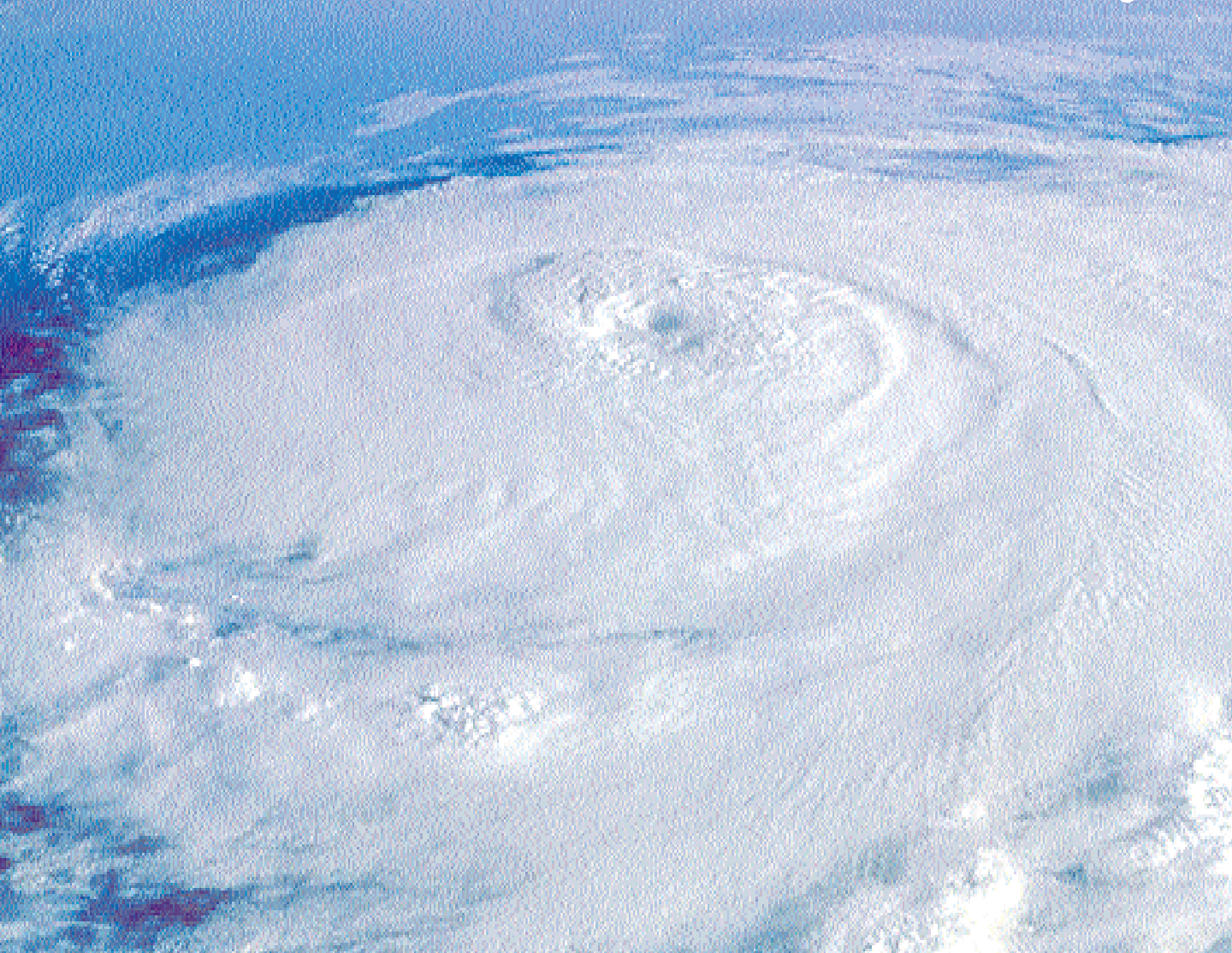


A Frontline Special Section

Hurricane Safety



*A preparedness guide
for Fort Stewart and Hunter Army Airfield*



Department of the Army

HEADQUARTERS, 3D INFANTRY DIVISION (MECHANIZED) AND FORT STEWART
42 WAYNE PLACE, SUITE 204
Fort Stewart, Georgia 31314-5048

15 May, 2005

MEMORANDUM FOR All Fort Stewart and Hunter Army Airfield military and civilian personnel

SUBJECT: Personal Hurricane Survival

1. The threat of a hurricane to this area is real and warrants utmost attention for preparation and action. It is important that we all know what to expect during one of these storms, and what to do to reduce the risk to our families and ourselves.
2. I strongly encourage you to take appropriate preventive measures, and urge you to read this handbook that identifies changes and adapt your actions and checklists to your personal needs. Keep in mind that hurricanes are destructive storms. Your safety could depend on your actions and preparations.

John M. Kidd
Colonel, U.S. Army
Installation Commander

I n t r o d u c t i o n

Hurricanes can cause widespread damage without ever making landfall. Tropical systems from the Atlantic Ocean and Gulf of Mexico have caused major flooding and inland winds as far north as the mountain regions in Georgia. In addition, rapid population growth along the hurricane-prone coastline increases the risk of loss of life and extreme property damage. Everyone takes personal responsibility for taking appropriate preventive measures and prepare himself or herself in the event of a hurricane.

Command Hurricane Policy

- The Installation Commander will make all decisions requiring evacuation of Fort Stewart and Hunter Army Airfield (HAAF). Local county Emergency Management Agencies will decide on evacuation within their jurisdictions. Fort Stewart will provide shelter facilities for Soldiers and families ordered to evacuate from Hunter Army Airfield up to a Category 1 storm.
- Fort Stewart decisions will follow the principal of “**run from the water, hide from the wind.**”
- Greatest Threat is Wind Damage, Not Storm Surge.
- MARNE TV is the official source of news, information, and updates. The intranet will also be used.
- Soldiers may have duties that prevent their evacuation with their families.
- If local evacuations are directed and Fort Stewart does not evacuate, Fort Stewart will accept as many military families as possible.
- On and off post families must be prepared to evacuate without their sponsors. Preparation is critical to success.
- Pets will only be allowed in the Statesboro, Waycross, Tifton, Dublin, and Douglas Community Shelters.

Evacuation Policy

Fort Stewart

- The Central Inprocessing Center for evacuees is Mower Gymnasium, building number 208. This serves as the Central Inprocessing Center for all Fort Stewart Shelters, however each shelter will have an inprocessing center. The designated parking for Mower Gymnasium is the Mower Gym parking lot.
- Privately owned vehicles (POV) will be used to evacuate when possible.
- During some hurricanes, the Installation Commander will decide that soldiers residing in barracks will remain there and will encourage families in Army Family Housing to also remain there.
- During other hurricanes, the Installation Commander will decide that soldiers residing in barracks will evacuate to the location specified by their respective chains of command. Soldiers residing in Army Family Housing will evacuate via POV to the location specified by their respective chains of command. Family members of soldiers residing in Army Family Housing will be encouraged to evacuate to the same location as their spouses.
- Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA).

Hunter Army Airfield

- There will be no shelters opened on Hunter Army Airfield (HAAF).
- During some hurricanes, the Installation Commander will decide that soldiers residing in barracks and families in Army Family Housing will remain there.
- During other hurricanes, the Installation Commander will decide that soldiers residing in barracks will evacuate to Fort Stewart facilities. Soldiers residing in Army Family Housing will evacuate via POV to the location specified by the Installation Commander. Family members of soldiers residing in Army Family Housing will be encouraged to evacuate to the same location as their spouses.
- Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA).

Fort Stewart Central Inprocessing Center

Mower Gymnasium, building number 208, is the Central In-processing Center for all Fort Stewart Shelters. Designated Parking is in the Mower Gym parking lot.

Fort Stewart Shelters

PRIORITY	BLDG #	BLDG NAME	WIND LOAD	AGENCY	CAPACITY
1	208	Mower Gym Inprocessing Ctr.	95	3ID(D)	N/A
2	708	Caro Gym	110	DPTMS	67
3	608	Jordan Gym	95	3ID Rear	67
4	5602	Diamond Elem.	130	DPW	290
5	402	MARNE Lanes	130	3ID Rear	175
6	100	Education Center	120	DMWR	145
7	610	MARNE Chapel	130	DOL	96
8	2125	Victory Chapel	110	3ID Rear	96
9	439	Newman Gym	95	3ID Rear	336
TOTAL					1,272

FACILITY/BUILDING

■ Education Center, Building 100	767-8331
■ Jordan Gymnasium, Building 608	767-5079
■ Caro Gymnasium, Building 708	767-4763
■ Mower Gymnasium, Building 208	767-8894
■ Newman Gymnasium, Building 439.....	767-3031
■ Diamond Elementary School, Building 5602	876-6094
■ MARNE Bowling Center, Building 402,	767-4866
■ MARNE Chapel, Building 610	767-8801
■ Victory Chapel, Building 2125	767-7028

Evacuation Routes

Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA). Once the evacuation begins it is imperative for all personnel to pay particular attention the hurricane evacuation route signing.

Additionally, the Georgia Emergency Management Agency (GEMA) in conjunction with the Georgia Department of Transportation (DOT) will have portable electronic message boards along the routes containing updated directions and information. The Coastal Georgia Evacuation Routes are:

Chatham County:

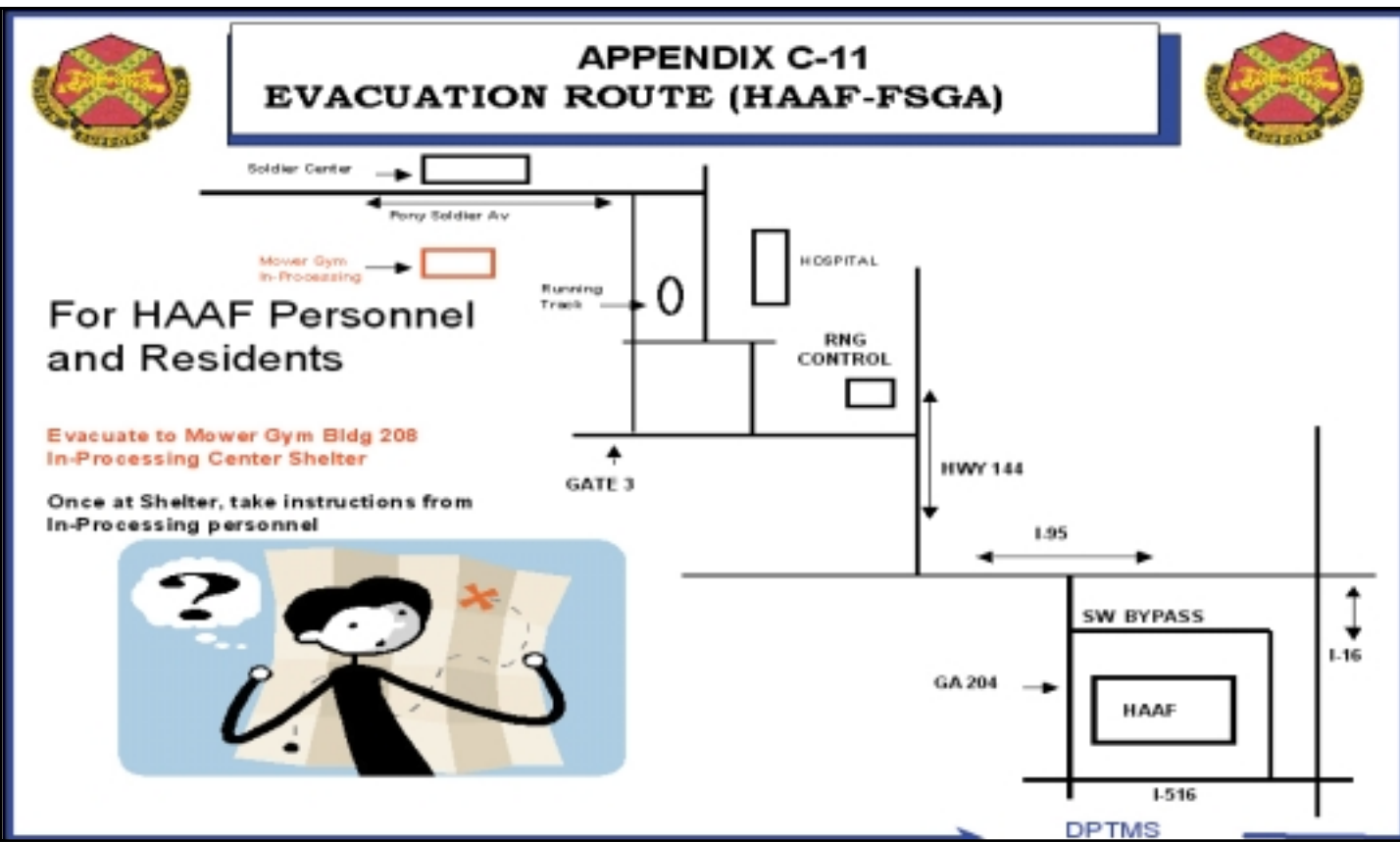
Highway 21
US 80
I-16
Highway 204 to US 280

Bryan County:

Highway 144 to US 301 (Glennville)

Liberty County:

Highway 84 to Highway 196 to Highway 301 (Glennville)



Georgia Emergency Management Agency **Hurricane Evacuation Routes**



Establish a “family contact”

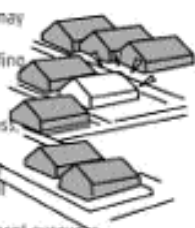
In case family members are separated from one another during a disaster (a real possibility during the day when adults are at work and children are at school), have a plan for getting back together. Ask an out-of-state relative or friend to serve as the “family contact.” After a disaster, it’s often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

Civilian Shelter Locations

If soldiers and/or their families are required to evacuate their off-post residences, they should go to one of the primary or alternate inland shelters identified on the following map. Register every person arriving with you at the shelter and check-in with the Military Liaison Officer. Do not take alcoholic beverages or weapons of any kind into the shelters.

How community shelters will be opened for coastal evacuees

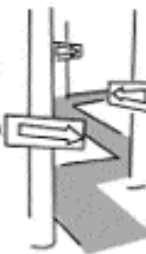
Numerous shelters may be certified in a community, but staffing restraints limit the number that are opened. The Red Cross, Georgia Emergency Management Agency and communities will decide which communities will accept evacuees.



Prior to evacuating, people should stay informed by local media to determine which communities will accept evacuees. During the drive, people can listen to Georgia Public Radio stations for updated information. (Radio stations below.)



Upon entry into that community, directions to a shelter will be marked by the Red Cross. Arrows will mark the way to the open shelter.



Local shelters

In a Category 3, 4 or 5 there will be no shelters open in Chatham County. Other counties will make their decisions known upon an impending storm. In case of a Category 1 or 2 hurricane, these counties may open the following inland shelters:

Ga. counties

Chatham:

Will use selected area schools and churches. Names will be announced.

Bryan:

Bryan County High School and Bryan County Elementary School.

Effingham: Guyton, Ebenezer and Sandhill elementary schools

Liberty:

First Baptist Church and Bradwell High School in Hinesville.

S.C. counties

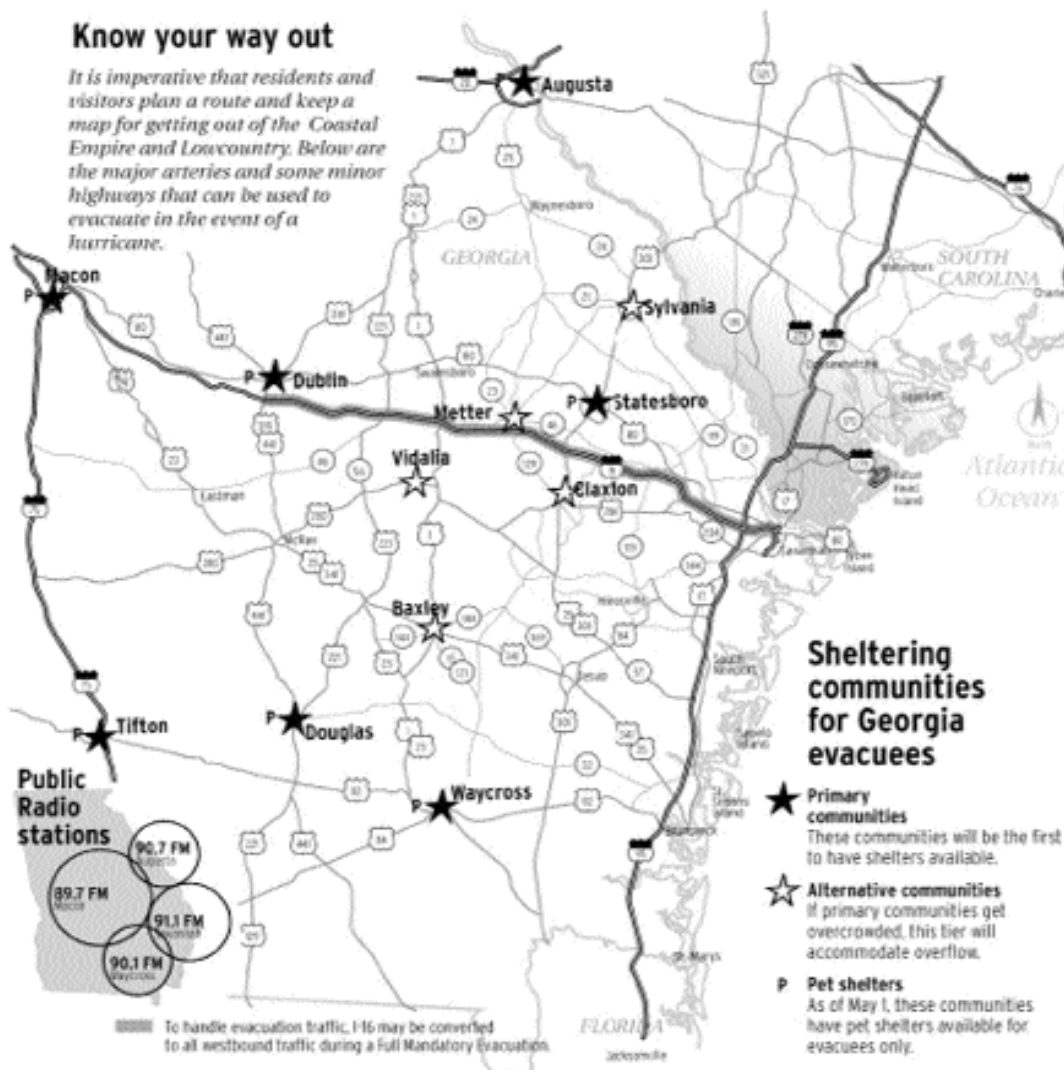
Beaufort: Michael C. Riley School, Bluffton: Battery Creek High, Burton: Beaufort Elementary, Beaufort.

Jasper:

Coosawhatchie Community Center, Coosawhatchie: Jasper County High, Ridgeland; Robertville Community Center, Robertville; and Ridgeland Elementary and Middle schools, Ridgeland.

Know your way out

It is imperative that residents and visitors plan a route and keep a map for getting out of the Coastal Empire and Lowcountry. Below are the major arteries and some minor highways that can be used to evacuate in the event of a hurricane.



Sheltering communities for Georgia evacuees

- ★ **Primary communities**
These communities will be the first to have shelters available.
- ☆ **Alternative communities**
If primary communities get overcrowded, this tier will accommodate overflow.
- P **Pet shelters**
As of May 1, these communities have pet shelters available for evacuees only.

Where to get information

Peach State Radio Frequencies

Peach State Public Radio is Georgia's public radio network, which collaborates with the Georgia Emergency Management Agency (GEMA), and other agencies to provide "real time" information people need during a hurricane. Tune to these FM radio frequencies in the following areas for severe weather information:

Albany — 91.7

Athens — 91.7/97.9

Augusta — 90.7

Brunswick — 89.1

Carrollton — 90.7

Columbus — 88.1

Dahlonega — 89.5

Demorest — 88.3

Fort Gaines — 90.9

Macon — 89.7

Savannah — 91.1

Tifton — 91.1

Valdosta — 91.7

Waycross — 90.1

Hurricane-related websites

The following partial listing of weather and hurricane related websites is provided for your information and access:

■ **The Weather Channel:** www.weather.com

■ **National Hurricane Center:** www.nhc.noaa.gov

■ **National Weather Service Forecast Office, Charleston, SC:**
wchs.csc.noaa.gov

■ **Hurricane Storm Surge: Causes and Effects:**
www.gastormsurge.com/chathamb.html

■ **Savannah Morning News:** www.savannahnow.com

■ **Links to Emergency Management & Related Sites:**
www.nhc.noaa.gov.aboutlinkem.html

■ **American Red Cross:** www.redcross.org

■ **Shelter Information:** www.gema.state.ga.us.nsf

Have a prepared hurricane evacuation kit and take it with you when you evacuate. Hurricane evacuation kits should contain the following items:

- (1) Fill your vehicle fuel tanks.
- (2) Water 1 gallon per person per day. Have a 3-day supply.
- (3) Nonperishable food items, canned meats, fruits and vegetables, snacks, etc.
- (4) prescription drugs and other medication.
- (5) Baby food or other unique dietary food items.
- (6) Blankets, pillows, and bedding items.
- (7) Pet food (note: most shelters do not allow pets).
- (8) Cooler ice-chest.
- (9) Can opener.
- (10) Pots and pans to prepare foods.
- (11) Camp stoves, portable grill.
- (12) Paper/plastic plates and utensils.
- (13) Extra clothing items.
- (14) Diapers, baby supplies, and small trash bags to dispose of baby waste.
- (15) Personal hygiene items.
- (16) Flashlight and extra batteries.
- (17) Portable radio and extra batteries.
- (18) Important personal paper, including insurance policy information, and important numbers.
- (19) Toys, books, children's games.
- (20) Personal identification for each person, money, credit cards, etc.

Do not take the following items to shelter facility:

- (1) Pets of any kind.
- (2) Alcoholic beverages of any kind.
- (3) Perishable food items.
- (4) Weapons.

Home preparation for hurricane force winds, accomplish the following:

- (1) Ensure that supplies listed above are on hand.
- (2) Secure furnace rooms, storerooms, garage doors, etc. Covering with plywood is recommended.
- (3) Cover windows with plywood, or at a minimum, use masking tape to help guard against breakage.
- (4) Store loose object inside, i.e., boxes, BBQ grills, garbage cans, toys, etc.
- (5) Secure objects outside of building, i.e., boats, playground equipment, clothesline, TV antenna, etc.
- (6) Fill vehicle fuel tanks.
- (7) Fill water containers, to include bathtubs, as the water supply may become inoperable or contaminated.
- (8) Maintain on hand at least a 3 day supply of nonperishable food and potable water. Additional items that may be desirable for the aftermath of the storm include camping supplies (tents, cots, sleeping bags, camp stoves, lanterns, fuel, etc.).
- (9) If you have a power generator, do not connect it to your house power panel. To do so may send power outside your house along downed power lines and may injure or kill workers at some distance from your house. If you intend to use a back-up generator, plug the items you intend to use directly into the generator.

During HURCON 1 complete all preparations indicated above. Additionally, accomplish the following:

Extinguish all fired, i.e., stoves, furnaces, ranges, etc., for the durations of the hurricane. Turn off gas at the meter.

All personnel limit activity to confines of shelter or dwelling. Keep away from glass windows and doors and remain indoors until the official "All Clear" is announced.

If major damage occurs, personnel should lie along an inside wall on the side away from the wind and cover themselves with a mattress, dining room table, desk, or some other similar object.

Only emergency phone calls should be made.

Stay fully dressed with raincoats readily available.

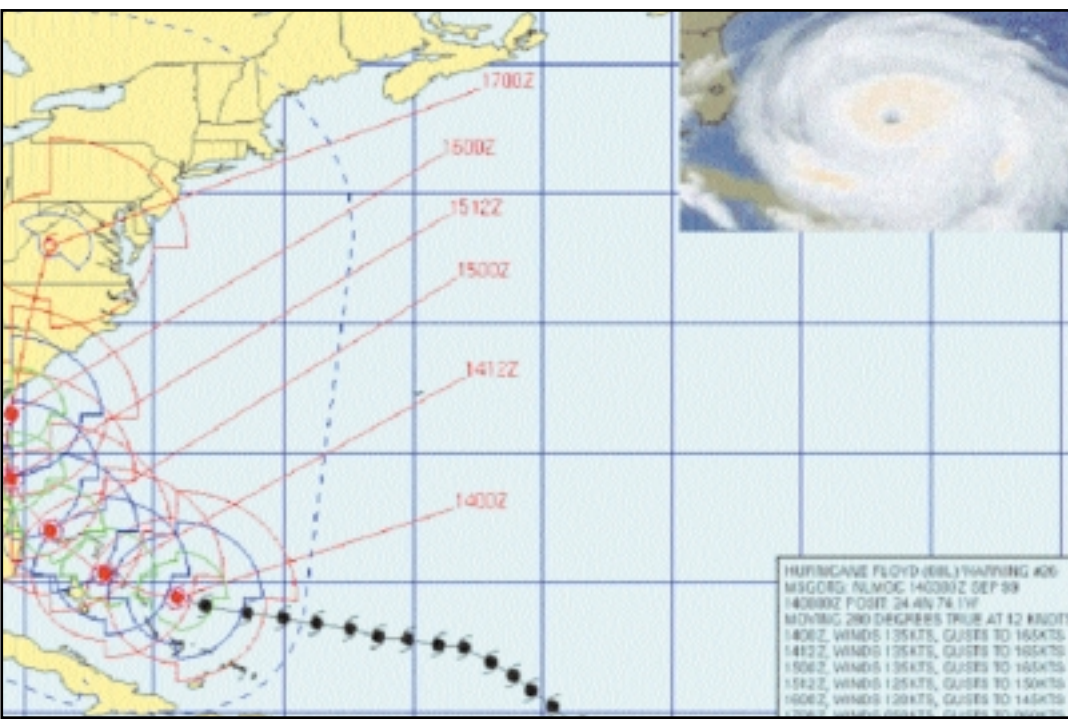
Following the hurricane, remain in a safe place until the "All Clear" announcement. Do not assume an "All Clear" because there is a lull in the storm. This lull will occur when the eye or center of the hurricane passes directly overhead and the wind will return suddenly from the opposite direction and possibly with even greater violence. Following an "All Clear" announcement:

Listen for loudspeaker/radio announcements and instructions.

Do not drive unless absolutely necessary. If you must drive, watch out for debris, washouts, and swollen streams. Do not drive through standing water.

Stay away from broke or low hanging power lines as well as metal objects that may be in contact with damaged power lines. Notify military police or other authorities of dangling or broken wires. Do not hinder first aid or rescue work. Stay away from disaster areas.

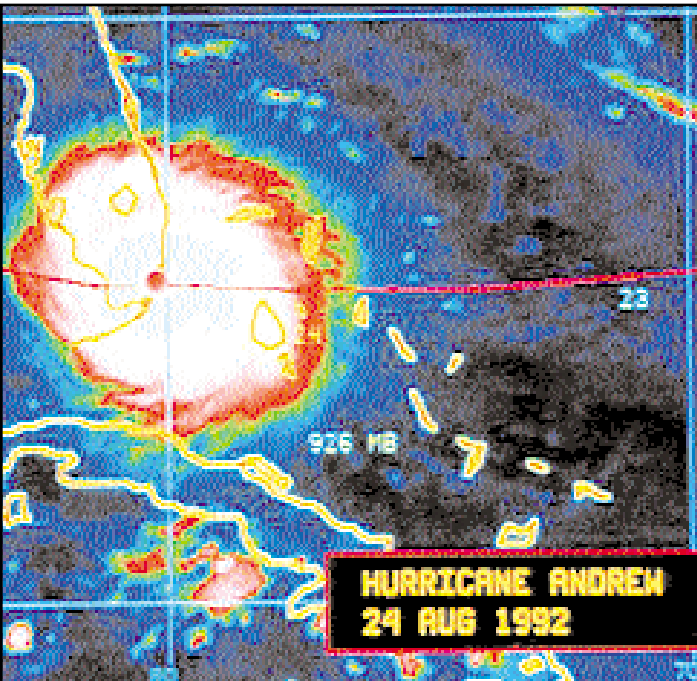
Be alert exercise proper caution for snakes, animals, and insects which may travel inland to escape the approaching flood waters caused by hurricane.



This is a map of Hurricane Floyd's storm track from the time it was a named tropical storm through its pelting of the Caribbean and the Outer Banks of North Carolina in 1999.

Hurricanes

There are no other storms like hurricanes on Earth. Views of hurricanes from satellites located thousands of miles above the planet show how unique these powerful, tightly coiled weather systems are.



What is a hurricane?

A hurricane is a type of tropical cyclone, the general term for all circulating weather systems (counterclockwise in the Northern Hemisphere) over tropical waters. Tropical cyclones are classified as follows:

■ **Tropical Depression:** An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.

■ **Tropical Storm:** An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph (34-63 knots).

■ **Hurricane:** An intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph (64 knots) or higher. In the western Pacific, hurricanes are called "typhoons" and similar storms in the Indian Ocean are called "cyclones."

Hurricanes are products of the tropical ocean and atmosphere. Powered by heat from the sea, they are steered by the easterly trade winds and the temperate westerlies as well as by their own ferocious energy. Around their core, winds grow with great velocity, generating violent seas. Moving ashore, they sweep the ocean inward while spawning tornadoes and producing torrential rains and floods. The hurricane season begins June 1 and runs through November 30. This season's prediction includes at least 115 tropical storms, seven or more of which becomes hurricanes, and three or more become major or intense hurricanes of Category 3 or higher on the Saffir-Simpson Hurricane Scale. Most of the above-average activity will occur during the peak period of the season from August to October. The overall activity including storm duration, intensity, and the number of storm days is very high.

Saffir-Simpson Hurricane Scale

Category	Pressure	Winds	Storm Surge	Damage	Example
1	>980	74-95	4-5	Minimal	IRENE (99)
2	965-979	96-110	6-8	Moderate	BONNIE (98)
3	945-964	111-130	9-12	Extensive	KEITH (00)
4	920-944	131-155	13-18	Extreme	HUGO (89)
5	<920	>155	18+	Catastrophic	MITCH (98)

How hurricanes form

Breeding Grounds

In the eastern Pacific, hurricanes begin forming by mid-May, while in the Atlantic, Caribbean, and Gulf of Mexico, hurricane development starts in June. For the United States, the peak hurricane season extends through November. Over other parts of the world, such as the western Pacific, hurricanes can occur year-round. Developing hurricanes gather heat and energy through contact with warm ocean waters. The addition of moisture by evaporating from the sea surface powers them like giant steam engines.



Storm Structure

The process by which a disturbance forms and subsequently strengthens into a hurricane depends on at least three conditions. Warm waters and moisture are mentioned above. The third condition is a wind pattern near the ocean surface that spirals air inward. Bands of thunderstorms form, allowing the air to warm further and rise higher into the atmosphere. If the winds at these higher levels are relatively light, this structure can remain intact and allow for additional strengthening. The center, or eye, of a hurricane is relatively calm. The most violent activity takes



place in the area immediately around the eye, called the eyewall. At the top of the eyewall (about 50,000 feet), most of the air is propelled outward, increasing the air's upward motion. Some of the air, however, moves inward and sinks into the eye, creating a cloud-free area.

2005 Hurricane

Names

Arlene
Bret
Cindy
Dennis
Emily
Franklin
Gert
Harvey
Irene
Jose
Katrina
Lee
Maria
Nate
Ophelia
Phillipe
Rita
Stan
Tammy
Vince
Wilma

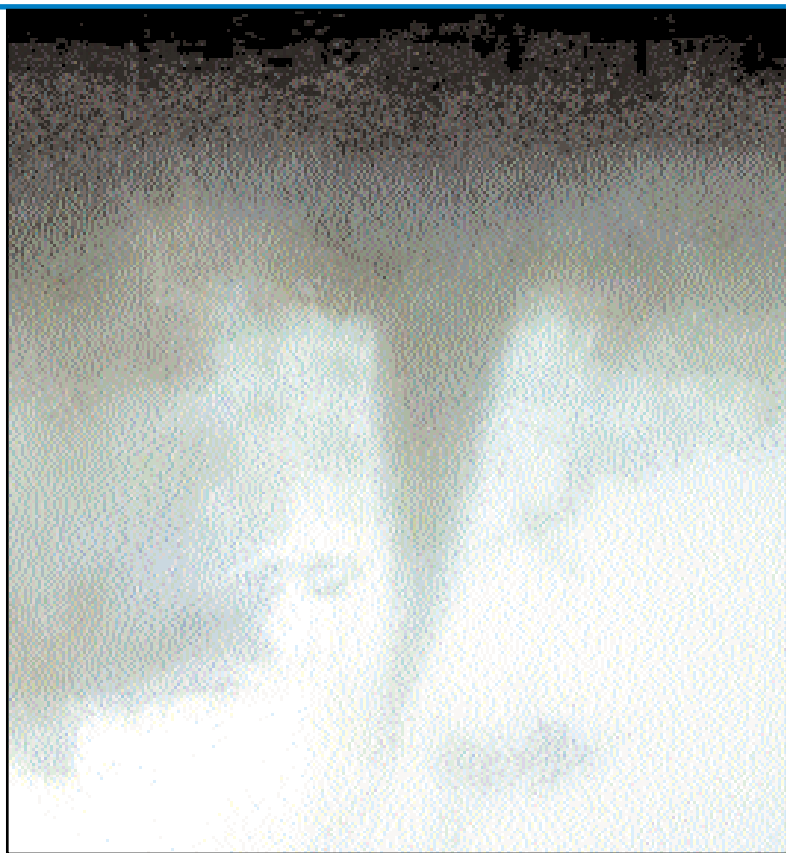
Storm Fury

Tornadoes

Hurricanes also produce tornadoes, which add to the storm's destructive power. The tornadoes often occur in thunderstorms embedded in rain bands well away from the center of the storm, but they can also occur in the eyewall.

Winds

Hurricane-force winds, at 74 mph or more, can destroy poorly constructed buildings and mobile homes. Debris, such as signs, roofing material, siding and small items left outside, can become deadly missiles in a hurricane. Winds often stay above hurricane strength well inland.



Hurricane Hugo battered Charlotte, N.C., which is about 175 miles inland, with gusts near 100 mph, downing trees and power lines.

Heavy Rains & Floods

Widespread torrential rains, often in excess of six inches can produce deadly and destructive floods. This is the major threat to all areas well inland.

■ Tropical Storm Claudette (1979) brought 45 inches of rain to an area near Alvin, Texas, contributing to more than \$600 million* in damage.

■ Long after the winds of Hurricane Diane (1955) subsided, the storm

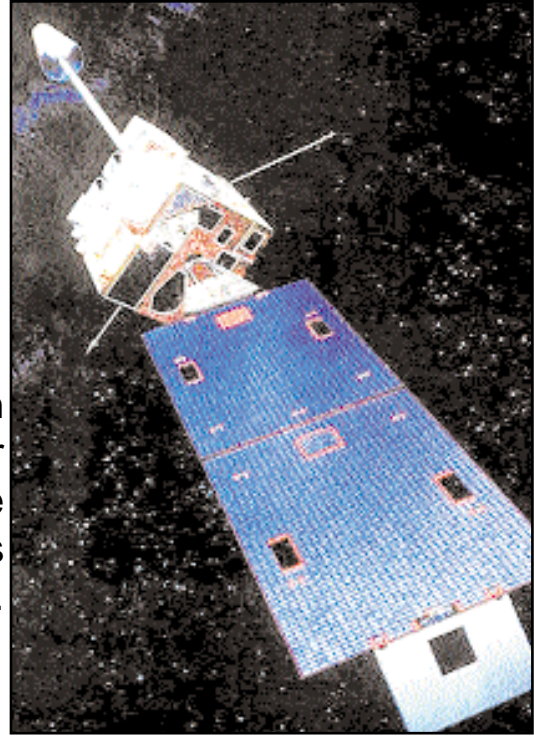
brought floods to Pennsylvania, New York and New England that contributed to nearly 200 deaths and \$5.54 billion** in damage.

■ Hurricane Floyd (1999) caused inordinate amounts of freshwater flooding to coastal North Carolina, contributing to 57 deaths and \$4.66 billion** in damage.

*Not adjusted for inflation **Adjusted to 2000 dollars

Surveillance and Forecasting Satellite

Geostationary satellites orbiting the earth at an altitude of about 22,000 miles above the equator provide imagery both day and night. The satellite imagery helps provide estimates of the storm's position and predicted landfall.



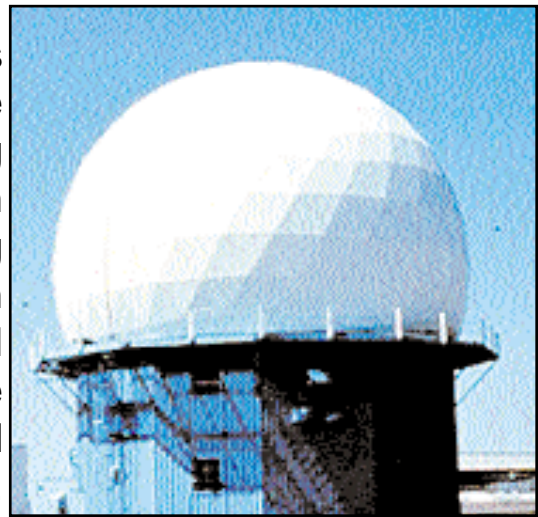
Reconnaissance Aircraft

The U.S. Air Force Reserve provides most of the operations reconnaissance. Pilots fly aircraft into the core of a hurricane to measure wind, pressure, temperature and humidity as well as to provide an accurate location of the center of the hurricane.



Radar

When a hurricane gets close to the coast, it is monitored by land-based weather radars. The National Weather Service is currently installing Doppler Weather Radars across the country which will add new dimensions to hurricane warning capabilities. They will provide detailed information on hurricane wind fields and their changes. Local NWS offices will be able to provide more accurate short-term warnings for floods, tornadoes and inland high winds.





HURRICANE CONDITIONS MAJOR ACTIONS



HURCON	DEFINITION	MAJOR ACTIONS
5	A tropical depression with the potential to develop into a more serious storm has been identified and may pose a threat to FSGA or HAAF	<ul style="list-style-type: none">• Close coordination between 15th ASOS, DES and EOC• Storm is traced on 24 hours basis• Initial review of plans• Normal duty posture
4	A hurricane has developed and is a <u>possible</u> threat. It is predicted that there are <u>72</u> hours before the arrival of 50 knot winds.	<ul style="list-style-type: none">• Threat notification disseminated• Develop procedures for release of non-essential personnel• Finalize procedures for protection/evacuation of aircraft• Based on storm potential, finalize plans for evacuation
3	A hurricane is a <u>probable</u> threat. It is predicted that there are <u>48</u> hours before the arrival of 50 knot winds.	<ul style="list-style-type: none">• Augment EOC for 24 hour operations• Begin preparation of shelters• Initiate protection or evacuation of aircraft• Begin police of areas to remove debris and secure facilities
2	A hurricane is a <u>definite</u> threat. It is predicted that there are <u>24</u> hours before the arrival of 50 knot winds	<ul style="list-style-type: none">• Decision to evacuate• Shelters open and operational• Complete evacuation of Aircraft
1	A hurricane is an <u>imminent</u> threat. It is predicted that there are <u>12</u> hours before the arrival of 50 knot winds.	<ul style="list-style-type: none">• Final police of areas complete• Non-essential personnel released• Dissemination of hurricane warning continues